

SEQUENCE LISTING

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 VanCott, Thomas
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<120> PROTEIN AND PEPTIDE VACCINES FOR
 INDUCING MUCOSAL IMMUNITY

<130> 40646-20002.00

<140> US 09/214,701

<141> 1999-09-30

<150> PCT/US 97/12253

<151> 1997-07-10

<150> US 60/021,687

<151> 1996-07-10

<160> 18

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 868

<212> PRT

<213> Virus HIV-1

<400> 1

Met	Ala	Met	Arg	Ala	Lys	Gly	Ile	Arg	Lys	Asn	Cys	Gln	His	Leu	Trp
1				5					10					15	
Arg	Trp	Gly	Thr	Met	Leu	Leu	Gly	Met	Leu	Met	Ile	Cys	Ser	Ala	Ala
		20						25					30		
Ala	Asn	Leu	Trp	Val	Thr	Val	Tyr	Tyr	Gly	Val	Pro	Val	Trp	Lys	Glu
		35					40					45			
Ala	Thr	Thr	Thr	Leu	Phe	Cys	Ala	Ser	Asp	Ala	Lys	Ala	Tyr	Asp	Thr
		50				55					60				
Glu	Ala	His	Asn	Val	Trp	Ala	Thr	His	Ala	Cys	Val	Pro	Thr	Asn	Pro
65				70						75				80	
Asn	Pro	Gln	Glu	Val	Val	Leu	Glu	Asn	Val	Thr	Glu	Asn	Phe	Asn	Met
			85						90				95		
Trp	Lys	Asn	Asn	Met	Val	Glu	Gln	Met	His	Glu	Asp	Ile	Ile	Ser	Leu
			100					105					110		
Trp	Asp	Gln	Ser	Leu	Lys	Pro	Cys	Val	Lys	Leu	Thr	Pro	Leu	Cys	Val
		115					120					125			
Thr	Leu	Asn	Cys	Thr	Asp	Leu	Asn	Thr	Asn	Asn	Thr	Thr	Asn	Thr	Thr
		130				135					140				
Glu	Leu	Ser	Ile	Ile	Val	Val	Trp	Glu	Gln	Arg	Gly	Lys	Gly	Glu	Met
145					150					155				160	
Arg	Asn	Cys	Ser	Phe	Asn	Ile	Thr	Thr	Ser	Ile	Arg	Asp	Lys	Val	Gln
				165					170					175	
Arg	Glu	Tyr	Ala	Leu	Phe	Tyr	Lys	Leu	Asp	Val	Glu	Pro	Ile	Asp	Asp
			180					185					190		
Asn	Lys	Asn	Thr	Thr	Asn	Asn	Thr	Lys	Tyr	Arg	Leu	Ile	Asn	Cys	Asn
			195				200						205		

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Thr Ser Val Ile Thr Gln Ala Cys Pro Lys Val Ser Phe Glu Pro Ile
210                215                220
Pro Ile His Tyr Cys Thr Pro Thr Gly Phe Ala Leu Leu Lys Cys Asn
225                230                235                240
Asp Lys Lys Phe Asn Gly Thr Gly Pro Cys Thr Asn Val Ser Thr Val
                245                250                255
Gln Cys Thr His Gly Ile Arg Pro Val Val Ser Thr Gln Leu Leu Leu
                260                265                270
Asn Gly Ser Leu Ala Glu Glu Glu Val Val Ile Arg Ser Glu Asn Phe
275                280                285
Thr Asn Asn Ala Lys Thr Ile Ile Val Gln Leu Asn Val Ser Val Glu
290                295                300
Ile Asn Cys Thr Arg Pro Asn Asn His Thr Arg Lys Arg Val Thr Leu
305                310                315                320
Gly Pro Gly Arg Val Trp Tyr Thr Thr Gly Glu Ile Leu Gly Asn Ile
                325                330                335
Arg Gln Ala His Cys Asn Ile Ser Arg Ala Gln Trp Asn Asn Thr Leu
                340                345                350
Gln Gln Ile Ala Thr Thr Leu Arg Glu Gln Phe Gly Asn Lys Thr Ile
                355                360                365
Ala Phe Asn Gln Ser Ser Gly Gly Asp Pro Glu Ile Val Met His Ser
370                375                380
Phe Asn Cys Gly Gly Glu Phe Phe Tyr Cys Asn Ser Thr Gln Leu Phe
385                390                395                400
Asn Ser Ala Trp Asn Val Thr Ser Asn Gly Thr Trp Ser Val Thr Arg
                405                410                415
Lys Gln Lys Asp Thr Gly Asp Ile Ile Thr Leu Pro Cys Arg Ile Lys
                420                425                430
Gln Ile Ile Asn Arg Trp Gln Val Val Gly Lys Ala Met Tyr Ala Leu
                435                440                445
Pro Ile Lys Gly Leu Ile Arg Cys Ser Ser Asn Ile Thr Gly Leu Leu
                450                455                460
Leu Thr Arg Asp Gly Gly Gly Glu Asn Gln Thr Thr Glu Ile Phe Arg
465                470                475                480
Pro Gly Gly Gly Asp Met Arg Asp Asn Trp Arg Ser Glu Leu Tyr Lys
                485                490                495
Tyr Lys Val Val Lys Ile Glu Pro Leu Gly Val Ala Pro Thr Lys Ala
                500                505                510
Lys Arg Arg Val Val Gln Arg Glu Lys Arg Ala Val Gly Met Leu Gly
                515                520                525
Ala Met Phe Leu Gly Phe Leu Gly Ala Ala Gly Ser Thr Met Gly Ala
530                535                540
Thr Ser Met Ala Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile
545                550                555                560
Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Lys Ala Gln Gln His
                565                570                575
Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile
                580                585                590
Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln Gln Leu Leu Gly Phe Trp
                595                600                605
Gly Cys Ser Gly Lys Leu Ile Cys Thr Thr Ala Val Pro Trp Asn Ala
610                615                620
Ser Trp Ser Asn Lys Thr Leu Asp Gln Ile Trp Asn Asn Met Thr Trp
625                630                635                640
Met Glu Trp Asp Arg Glu Ile Asp Asn Tyr Thr His Leu Ile Tyr Thr
                645                650                655
Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Gln Gln Glu Leu

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660	665	670
Leu Gln Leu Asp Lys Trp Ala Ser Leu Trp Thr Trp Ser Asp Ile Thr		
675	680	685
Lys Trp Leu Trp Tyr Ile Lys Ile Phe Ile Met Ile Val Gly Gly Leu		
690	695	700
Ile Gly Leu Arg Ile Val Phe Ala Val Leu Ser Ile Val Asn Arg Val		
705	710	715
Arg Gln Gly Tyr Ser Pro Leu Ser Phe Gln Thr Leu Leu Pro Asn Pro		
725	730	735
Arg Gly Pro Asp Arg Pro Glu Gly Thr Glu Glu Gly Gly Gly Glu Arg		
740	745	750
Gly Arg Asp Gly Ser Thr Arg Leu Val His Gly Phe Leu Ala Leu Val		
755	760	765
Trp Asp Asp Leu Arg Ser Leu Cys Leu Phe Ser Tyr His Arg Leu Arg		
770	775	780
Asp Leu Leu Leu Ile Val Ala Arg Ile Val Glu Leu Leu Gly Arg Arg		
785	790	795
Gly Trp Glu Val Leu Lys Tyr Trp Trp Asn Leu Leu Gln Tyr Trp Ser		
805	810	815
Gln Glu Leu Lys Asn Ser Ala Val Ser Leu Val Asn Val Thr Ala Ile		
820	825	830
Ala Val Ala Glu Gly Thr Asp Arg Val Ile Glu Val Val Gln Arg Ile		
835	840	845
Tyr Arg Ala Phe Leu His Ile Pro Arg Arg Ile Arg Gln Gly Phe Glu		
850	855	860
Arg Ala Leu Leu		
865		

<210> 2

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Hydrophobic peptide added to the terminus of the antigenic peptide

<400> 2

Phe Leu Leu Ala Val

1

5

<210> 3

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Hydrophobic peptide added to the terminus of the antigenic peptide

<400> 3

Val Ala Leu Leu Phe

1

5

<210> 4

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Hydrophobic decapeptide

<400> 4

Gly Gly Tyr Cys Phe Val Ala Leu Leu Phe
1 5 10

<210> 5

<211> 68

<212> PRT

<213> P. falciparum

<400> 5

Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
20 25 30
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
35 40 45
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val Asp Pro
50 55 60
Asn Val Asp Pro
65

<210> 6

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic linker

<400> 6

gatccccggg gactgactga 20

<210> 7

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic linker

<400> 7

gatctcagtc agtcacccgg 20

<210> 8

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic oligopeptide

<400> 8

Gly Asn Val Gln Ala Ala Lys Asp Gly Gly Asn Thr Ala Ala Gly Arg
1 5 10 15

<210> 9

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepG

<400> 9

Tyr Gly Gly Gly Cys Thr Gln Ile Thr Glu Pro Thr Cys Asn Ser Ser
1 5 10 15

<210> 10

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepM1

<400> 10

Tyr Gly Val Pro Val Ala Thr Gln Thr Gly
1 5 10

<210> 11

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepCM1

<400> 11

Cys Tyr Gly Val Pro Val Ala Gln Thr Gln Thr Gly
1 5 10

<210> 12

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepCM3

<400> 12

Cys Tyr Gly Val Pro Val Ala Gln Thr Gln Thr Gly Val Pro Val Ala
1 5 10 15
Gln Thr Gln Thr Gly Val Pro Val Ala Gln Thr Gln Thr Gly
20 25 30

<210> 13

<211> 47

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepM5

<400> 13

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Tyr Gly Val Pro Val Ala Gln Thr Gln Thr Gly Val Pro Val Ala Gln
 1             5             10             15
Thr Gln Thr Gly Val Pro Val Ala Gln Thr Gln Thr Gly Val Pro Val
          20          25          30
Ala Gln Thr Gln Thr Gly Val Pro Val Ala Gln Thr Gln Thr Gly
      35          40          45

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<210> 14

<211> 48

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepCM5

<400> 14

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Cys Tyr Gly Val Pro Val Ala Gln Thr Gln Thr Gly Val Pro Val Ala
 1             5             10             15
Gln Thr Gln Thr Gly Val Pro Val Ala Gln Thr Gln Thr Gly Val Pro
          20          25          30
Val Ala Gln Thr Gln Thr Gly Val Pro Val Ala Gln Thr Gln Thr Gly
      35          40          45

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<210> 15

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepL1

<400> 15

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Lys Tyr Asn Ala Thr Lys Ala
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<210> 16

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Trypanosomal peptide pepCL1

<400> 16

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Cys Lys Tyr Asn Ala Thr Lys Ala
 1             5

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<210> 17

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA hydrophobic decapeptide coding
sequence

<400> 17

ggcgggttact gcttcggttgc tctgctgttc tgag

34

<210> 18

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Complementary chain of the hydrophobic decapeptide
encoding sequence

<400> 18

tcgactcaga acagcagagc aacgaagcag taaccacc

38